

WHAT IS CLAIMED IS:

1. A method for interoperating a first station using a first communication
5 scheme and comprising a first coder and a first decoder with a second station
using a second communication scheme and comprising a second coder and a
second decoder, wherein communication between the first and second stations
is conducted by transmitting signal-coding parameters from the coder of one of
the first and second stations to the decoder of the other of said first and second
10 stations, said method comprising:

receiving a request to transmit the signal-coding parameters from said
one station to the other station using a communication mode designed to reduce
bit rate during transmission of said signal-coding parameters;

- in response to said request, dropping a portion of the signal-coding
15 parameters from the coder of said one station and transmitting to the decoder of
the other station the remaining signal-coding parameters; and

regenerating said portion of the signal-coding parameters and decoding,
in the decoder of said other station, the signal-coding parameters.

- 20 2. A method as defined in claim 1, wherein receiving a request
comprises:

receiving a request to transmit the signal-coding parameters from said
one station to the other station using a half-rate communication mode.

- 25 3. A method as defined in claim 1, wherein the first communication
scheme is CDMA2000 VBR-WB and the second communication scheme is
AMR-WB.

4. A method as defined in claim 1, wherein decoding the signal-coding
30 parameters comprises:

operating the decoder of said other station in a full-rate mode.

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5. A method as defined in claim 1, wherein regenerating said portion of the signal-coding parameters comprises:

randomly regenerating said portion of the signal-coding parameters.

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6. A method as defined in claim 1, wherein:

dropping a portion of the signal-coding parameters comprises dropping fixed codebook indices; and

10 regenerating said portion of the signal-coding parameters comprises randomly regenerating the fixed codebook indices.

7. A method as defined in claim 1, wherein:

15 dropping a portion of the signal-coding parameters from the coder of said one station comprises inserting an identification of the communication mode; and

transmitting the remaining signal-coding parameters comprises transmitting to the decoder of said other station the communication mode identification along with the remaining signal-coding parameters.

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8. A method as defined in claim 1, wherein:

dropping a portion of the signal-coding parameters from the coder of said one station comprises dropping fixed codebook indices and inserting an identification of the communication mode; and

25 transmitting the remaining signal-coding parameters comprises transmitting to the decoder of the other station the communication mode identification along with the remaining signal-coding parameters.

9. A method as defined in claim 1, comprising, in the coder of said one station:

30 performing a fixed codebook search to determine a fixed codebook excitation; and

using the determined fixed codebook excitation for updating an adaptive codebook content and filter memories for next frames.

10. A method for interoperating a first station using a first communication
5 scheme and comprising a first coder and a first decoder with a second station
using a second communication scheme and comprising a second coder and a
second decoder, wherein communication between the first and second stations
is conducted by transmitting signal-coding parameters related to a sound signal
from the coder of one of the first and second stations to the decoder of the other
10 of said first and second stations, the method comprising:

classifying the sound signal to determine whether the signal-coding
parameters should be transmitted from the coder of said one station to the
decoder of the other station using a first communication mode in which full bit
rate is used for transmission of the signal-coding parameters;

15 receiving a request to transmit the signal-coding parameters from the
coder of said one station to the decoder of the other station using a second
communication mode designed to reduce bit rate during transmission of the
signal-coding parameters;

when classification of the sound signal determines that the signal-coding
20 parameters should be transmitted using the first communication mode, and
when the request to transmit the signal-coding parameters using the second
communication mode is received, dropping a portion of the signal-coding
parameters from the coder of said one station and transmitting to the decoder of
the other station the remaining signal-coding parameters using the second
25 communication mode.

11. A method as defined in claim 10, wherein receiving a request
comprises:

30 receiving a request to transmit the signal-coding parameters from the
coder of said one station to the decoder of the other station using a half-rate
communication mode.

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12. A method as defined in claim 10, wherein:

dropping a portion of the signal-coding parameters comprises dropping fixed codebook indices.

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13. A method as defined in claim 10, wherein:

dropping a portion of the signal-coding parameters from the coder of said one station comprises inserting an identification of the second communication mode; and

10 transmitting the remaining signal-coding parameters comprises transmitting to the decoder of said other station the identification of the second communication mode along with the remaining signal-coding parameters.

14. A method as defined in claim 10, wherein:

15 dropping a portion of the signal-coding parameters from the coder of said one station comprises dropping fixed codebook indices and inserting an identification of the second communication mode; and

20 transmitting the remaining signal-coding parameters comprises transmitting to the decoder of the other station the identification of the second communication mode along with the remaining signal-coding parameters.

15. A method as defined in claim 10, further comprising regenerating said portion of the signal-coding parameters and decoding, in the decoder of said other station, said signal-coding parameters into the sound signal.

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16. A method as defined in claim 15, wherein regenerating said portion of the signal-coding parameters comprises randomly regenerating said portion of the signal-coding parameters.

30 17. A method for transmitting signal-coding parameters from a first station to a second station, comprising:

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in one of said first and second stations, coding the sound signal in accordance with a full-rate communication mode;

receiving a request to transmit the signal-coding parameters from said one station to the other station of said first and second stations using a second
5 communication mode designed to reduce bit rate during transmission of said signal-coding parameters;

in response to the request, converting the signal-coding parameters coded in full-rate communication mode to signal-coding parameters coded in the second communication mode; and

10 transmitting the signal-coding parameters coded in the second communication mode to the other of said first and second stations.

18. A method as defined in claim 17, wherein receiving the request comprises:

15 receiving a request to transmit the signal-coding parameters from said one station to the other station using a half-rate communication mode.

19. A method as defined in claim 17, wherein converting the signal-coding parameters coded in full-rate communication mode to signal-coding
20 parameters coded in the second communication mode comprises:

dropping a portion of the signal-coding parameters.

20. A method as defined in claim 17, wherein converting the signal-coding parameters coded in full-rate communication mode to signal-coding
25 parameters coded in the second communication mode comprises:

dropping a portion of the signal-coding parameters from the coder of said one station and inserting an identification of the second communication mode.

21. A method as defined in claim 17, wherein:

30 converting the signal-coding parameters coded in full-rate communication mode to signal-coding parameters coded in the second communication mode

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comprises dropping fixed codebook indices and inserting an identification of the second communication mode; and

transmitting the signal-coding parameters coded in the second communication mode to the other of said first and second stations comprises
5 transmitting to the other station the identification of the second communication mode along with the remaining signal-coding parameters.

22. A method as defined in claim 19, further comprising regenerating said portion of the signal-coding parameters and, in the decoder of said other station,
10 decoding said signal-coding parameters.

23. A method as defined in claim 22, wherein regenerating said portion of the signal-coding parameters comprises randomly regenerating said portion of the signal-coding parameters.
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24. A system for interoperating a first station using a first communication scheme and comprising a first coder and a first decoder with a second station using a second communication scheme and comprising a second coder and a second decoder, wherein communication between the first and second stations
20 is conducted by transmitting signal-coding parameters from the coder of one of the first and second stations to the decoder of the other of said first and second stations, said system comprising:

means for receiving a request to transmit the signal-coding parameters from said one station to the other station using a communication mode designed
25 to reduce bit rate during transmission of said signal-coding parameters;

means for dropping, in response to said request, a portion of the signal-coding parameters from the coder of said one station and transmitting to the decoder of the other station the remaining signal-coding parameters; and

means for regenerating said portion of the signal-coding parameters and
30 the decoder of said other station for decoding the signal-coding parameters.

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25. A system as defined in claim 24, wherein the request receiving means comprises:

means for receiving a request to transmit the signal-coding parameters from said one station to the other station using a half-rate communication mode.

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26. A system as defined in claim 24, wherein the first communication scheme is CDMA2000 VBR-WB and the second communication scheme is AMR-WB.

10 27. A system as defined in claim 24, comprising means for operating the decoder of said other station in a full-rate mode.

28. A system as defined in claim 24, wherein the means for regenerating said portion of the signal-coding parameters comprises:

15 means for randomly regenerating said portion of the signal-coding parameters.

29. A system as defined in claim 24, wherein:

20 the means for dropping a portion of the signal-coding parameters comprises means for dropping fixed codebook indices; and

the means for regenerating said portion of the signal-coding parameters comprises means for randomly regenerating the fixed codebook indices.

30. A system as defined in claim 24, wherein:

25 the means for dropping a portion of the signal-coding parameters from the coder of said one station comprises means for inserting an identification of the communication mode; and

the means for transmitting the remaining signal-coding parameters comprises means for transmitting to the decoder of said other station the communication mode identification along with the remaining signal-coding parameters.

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31. A system as defined in claim 24, wherein:

the means for dropping a portion of the signal-coding parameters from the coder of said one station comprises means for dropping fixed codebook indices and means for inserting an identification of the communication mode;
5 and

the means for transmitting the remaining signal-coding parameters comprises means for transmitting to the decoder of the other station the communication mode identification along with the remaining signal-coding parameters.
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32. A system as defined in claim 24, comprising, in the coder of said one station:

means for performing a fixed codebook search to determine a fixed codebook excitation; and
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means for updating an adaptive codebook content and filter memories for next frames using the determined fixed codebook excitation.

33. A system for interoperating a first station using a first communication scheme and comprising a first coder and a first decoder with a second station using a second communication scheme and comprising a second coder and a second decoder; wherein communication between the first and second stations is conducted by transmitting signal-coding parameters related to a sound signal from the coder of one of the first and second stations to the decoder of the other
20 of said first and second stations, the system comprising:

means for classifying the sound signal to determine whether the signal-coding parameters should be transmitted from the coder of said one station to the decoder of the other station using a first communication mode in which full bit rate is used for transmission of the signal-coding parameters;
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means for receiving a request to transmit the signal-coding parameters from the coder of said one station to the decoder of the other station using a
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second communication mode designed to reduce bit rate during transmission of the signal-coding parameters;

means for dropping, when classification of the sound signal determines that the signal-coding parameters should be transmitted using the first communication mode and when the request to transmit the signal-coding parameters using the second communication mode is received, a portion of the signal-coding parameters from the coder of said one station and transmitting to the decoder of the other station the remaining signal-coding parameters using the second communication mode.

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34. A system as defined in claim 33, wherein the request receiving means comprises:

means for receiving a request to transmit the signal-coding parameters from the coder of said one station to the decoder of the other station using a half-rate communication mode.

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35. A system as defined in claim 33, wherein:

the means for dropping a portion of the signal-coding parameters comprises means for dropping fixed codebook indices.

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36. A system as defined in claim 33, wherein:

the means for dropping a portion of the signal-coding parameters from the coder of said one station comprises means for inserting an identification of the second communication mode; and

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the means for transmitting the remaining signal-coding parameters comprises means for transmitting to the decoder of said other station the identification of the second communication mode along with the remaining signal-coding parameters.

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37. A system as defined in claim 33, wherein:

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the means for dropping a portion of the signal-coding parameters from the coder of said one station comprises means for dropping fixed codebook indices and means for inserting an identification of the second communication mode; and

- 5 the means for transmitting the remaining signal-coding parameters comprises means for transmitting to the decoder of the other station the identification of the second communication mode along with the remaining signal-coding parameters.

- 10 38. A system as defined in claim 33, further comprising means for regenerating said portion of the signal-coding parameters and the decoder of said other station for decoding said signal-coding parameters into the sound signal.

- 15 39. A system as defined in claim 38, wherein the means for regenerating said portion of the signal-coding parameters comprises means for randomly regenerating said portion of the signal-coding parameters.

- 20 40. A system for transmitting signal-coding parameters from a first station to a second station, comprising:

in one of said first and second stations, a coder for coding the sound signal in accordance with a full-rate communication mode;

- 25 means for receiving a request to transmit the signal-coding parameters from said one station to the other station of said first and second stations using a second communication mode designed to reduce bit rate during transmission of said signal-coding parameters;

means for converting, in response to the request, the signal-coding parameters coded in full-rate communication mode to signal-coding parameters coded in the second communication mode; and

- 30 means for transmitting the signal-coding parameters coded in the second communication mode to the other of said first and second stations.

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41. A system as defined in claim 40, wherein the request receiving means comprises:

5 means for receiving a request to transmit the signal-coding parameters from said one station to the other station using a half-rate communication mode.

42. A system as defined in claim 40, wherein the means for converting the signal-coding parameters coded in full-rate communication mode to signal-coding parameters coded in the second communication mode comprises:

10 means for dropping a portion of the signal-coding parameters.

43. A system as defined in claim 40, wherein the means for converting the signal-coding parameters coded in full-rate communication mode to signal-coding parameters coded in the second communication mode comprises:

15 means for dropping a portion of the signal-coding parameters from the coder of said one station and means for inserting an identification of the second communication mode.

44. A system as defined in claim 40, wherein:

20 the means for converting the signal-coding parameters coded in full-rate communication mode to signal-coding parameters coded in the second communication mode comprises means for dropping fixed codebook indices and means for inserting an identification of the second communication mode; and

25 the means for transmitting the signal-coding parameters coded in the second communication mode to the other of said first and second stations comprises means for transmitting to the other station the identification of the second communication mode along with the remaining signal-coding parameters.

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45. A system as defined in claim 42, further comprising means for regenerating said portion of the signal-coding parameters and the decoder of said other station for decoding said signal-coding parameters.

- 5 46. A method as defined in claim 45, wherein the means for regenerating said portion of the signal-coding parameters comprises means for randomly regenerating said portion of the signal-coding parameters.

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